

NEW RECORDS OF APOCYNACEAE FOR PANAMA AND THE CHOCO¹

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ABSTRACT

Tabernaemontana pendula and *T. longipes*, synonymized under *T. chrysocarpa* in the *Flora of Panama*, are recognized as distinct from it. *Stemmadenia allenii* was originally described from fruiting and flowering material of different species, one of which—the most common wet-forest species of the genus in Panama—is now described as *S. minima* A. Gentry. The first South American record of the North American *Tabernaemontana arborea*, the first North American record of the South American *Odontadenia cognata*, and the reconfirmation of the occurrence of *Fosteronia myriantha* in Panama are reported.

Panamanian plants referred to *Tabernaemontana chrysocarpa* in the *Flora of Panama* treatment (Nowicke, 1970) prove to represent three distinct species. These three species, somewhat similar on the basis of floral characteristics, are easily separated by vegetative and fruiting characters.

***Tabernaemontana pendula* Woodson**

This species was described from a single specimen from El Valle (Allen 1734). It was compared by Woodson (1940) with *T. amygdalifolia* Jacq. because of its exserted anthers but lumped with *T. chrysocarpa*, a species characterized by included or subexserted anthers, by Nowicke (1970) in the *Flora of Panama*. *Tabernaemontana pendula* has a much longer peduncle than either *T. amygdalifolia* or *T. chrysocarpa*. It also has wider, more elliptical leaves and a characteristically wrinkled-reticulate fruit surface. The long peduncle is also obvious in fruit. The fruit, previously undescribed, is similar in shape to that of *T. chrysocarpa*. Two additional collections of this species, both in fruit, are now at hand. These are Mori *et al.* 1912 from La Mesa (above El Valle), Coclé Province, and Mori & Kallunki 2028 from the Río Guanche area of Colón Province.

***Tabernaemontana longipes* Donnell Smith**

This species was described from Costa Rica and has been thought endemic to that country. It is closely related to *T. chrysocarpa* and the Panamanian specimens of *T. longipes* were included with that species in the *Flora of Panama*. Vegetatively *T. longipes* differs from *T. chrysocarpa* in its elliptic leaves, always broadest near the middle; the latter has narrowly obovate to oblanceolate-elliptic leaves, broadest above the middle. The fruit of *T. longipes*, previously undescribed, is very distinctive with a verrucose muricate-ridged surface quite unlike the smooth, papillose or finely reticulate-ridged fruits of other Panamanian species of *Tabernaemontana* and *Stemmadenia*. I have seen no fruits of this

¹ Supported by NSF grant OIP75-18202.

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species from Costa Rica, but the Costa Rican and Panamanian collections seem indistinguishable on the basis of vegetative and floral characters.

Tabernaemontana longipes has been collected in Panama only above El Valle de Antón, Coclé Province, where it is locally very common. It is represented by thirteen collections from El Valle in the Missouri Botanical Garden Herbarium including all the Coclé Province collections cited as *T. chrysocarpa* in the *Flora of Panama* except Allen 1734 which is *T. pendula* (see above). The additional collections of this species—Kennedy *et al.* 3035, Liesner 747, Croat 14383, Gentry & Dwyer 3612, and Gentry 6873—were all identified and distributed as *T. chrysocarpa*.

The four Panamanian *Tabernaemontana* species with anthers tinged blue green can be separated by the following key:

- a. Anthers exerted or half-exserted; follicles narrow (more than twice as long as wide) or reniform and finely reticulate-wrinkled.
 - b. Peduncle very long, exceeding the leaves; fruit reniform and finely reticulate *T. pendula*
 - bb. Peduncle not elongate, inflorescence not exceeding the leaves; fruit narrowly elliptic, smooth *T. amygdalifolia*
- aa. Anthers included or barely exerted; follicles reniform, smooth or verrucose and muricate-ridged.
 - c. Leaves narrowly obovate to oblanceolate-elliptic, broadest above the middle; fruit smooth *T. chrysocarpa*
 - cc. Leaves elliptic, broadest at the middle; fruit verrucose and muricate-ridged *T. longipes*

Tabernaemontana arborea Rose

This species has previously been recorded from Belize to Panama. It is easily recognized by its yellow anthers inserted near the base of the corolla tube. Like many other "Central American" species, it also occurs in the northern Chocó. Two Chocó collections have been seen—Duke 12233 (MO, NY, OSU) and Duke 11169 (OSU), both from the Río Truando.

Stemmadenia allenii Woodson

This species, described from El Valle, Panama, was separated by Woodson from closely related Costa Rican *S. alfari* (Donnell Smith) Woodson because of its longer calyx lobes and larger corolla with broader throat and longer lobes. The type collection of *S. allenii* is in fruit and the fruit is of the same narrow, long-acuminate form as that of *S. alfari*. Many fruiting collections of *S. allenii* are now at hand, all with fruits of the same characteristic slender form. However, a vegetatively similar species with a very different obovoid to almost orbicular fruit also occurs in the same wet-forest areas and the flowering material attributed to *S. allenii* by Woodson (1941) and Nowicke (1970) actually belongs to the thick-fruited species (see below). The first flowering collection of the real *S. allenii* is Liesner 765 (MO) from El Valle, the type locality, which has the corolla throat narrower (rather than broader!) than *S. alfari* and calyx lobes only 4–5 mm long; in fact *S. allenii* proves separable from *S. alfari* not by the characteristics cited by Woodson but by their opposites! The real *S. allenii*

keys out to *S. alfari* in the *Flora of Panama*, but that species does not occur in Panama unless *S. allenii* itself should be considered as merely a geographic variant.

***Stemmadenia minima* A. Gentry, sp. nov.**

Frutex lactifer. Folia parva, anguste elliptica, acuminata, glabra. Flor calycis lobis membranaceis, 4–10 mm longis, corolla infundibuliformi, albida, tubo torto, staminibus tubo corollae prope mediam insertis. Folliculi crassi, obtusi, fere suborbiculati.

Shrub or small tree 1.5–5 m tall; branchlets somewhat angulate, minutely papillose, lactiferous. Leaves small, narrowly elliptic, acuminate, cuneate at the base, to 11 cm long and 3.9 cm wide (largest leaf 1.9–3.9 cm wide, $\bar{x} = 2.97$ cm), glabrous above and below, membranous; petioles 2–10 mm long, not clearly differentiated from the leaf base. Inflorescence a single flower, terminal from between two dichotomous lateral branches, glabrous, with a minute triangular bracteole; calyx lobes unequal, membranous, narrowly oblong, 4–10 mm long, glabrous; corolla infundibuliform, white to cream, the tube proper 12–17 mm long, twisted 180° at the top, the throat 15–20 mm long, the lobes obovate, ca. 1 cm long; stamens attached at the middle of the corolla tube, the anthers 4–5 mm long. Follicles thick, blunt, almost orbicular (“obovoid subreniform”), 2–3 cm long, 1.5–2.5 cm broad.

TYPE: PANAMA. PANAMÁ: Cerro Jefe, 800–1,000 m, 21 Dec. 1972, *Gentry 6763* (MO, holotype; duplicates were distributed as *S. cf. alfari*).

Additional collections examined: PANAMA. CANAL ZONE: Madden Lake, *Dwyer & Lallathin 8827A* (MO). COCLÉ: El Valle, *Allen 2239, 2364; Croat 25347; Dwyer et al. 4502a* (all MO). COLÓN: Santa Rita Ridge, *Gentry 6090, 6562* (both MO). PANAMÁ: Cerro Campana, *Busey 861; Croat 12144; Dressler 3523; Dwyer & Kirkbride 7829A; Gentry 4934; Mori & Kallunki 1930; Porter et al. 5249* (all MO). Cerro Jefe, *Croat 13028, 14444; Dressler 3333; Duke 9449* (all MO). El Llano-Cartí Road, *Gentry 5071; Gentry et al. 14201, 14214; Mori & Kallunki 2915* (all MO). VERAGUAS: Mouth of Río Concepción, *Lewis et al. 2853* (MO).

This species has been generally confounded with *S. allenii*, and, in fact, the original description of the flowers of that species are based on *S. minima* (see above). Discovery of the short thick fruits of *S. minima* prove that it is quite unrelated to *S. allenii* which has narrow, long-acuminate fruits. Calyx lobe length of these plants also exceeds that of *S. allenii* and, in fact, approaches that of *S. lagunae* Woodson, otherwise reported only from Bocas del Toro Province. I have previously identified collections of this entity as *S. lagunae*, which has a similar thick, rounded fruit. Numerous additional collections of *S. minima* are now at hand and it proves to differ constantly from *S. lagunae* in smaller leaves [largest leaf 1.9–3.9 cm wide ($\bar{x} = 2.97$ cm) versus largest leaf 4.3–6.2 cm wide ($\bar{x} = 5.32$ cm)] as well as shorter (\bar{x} for longest lobe = 8.05 mm versus 17.2 mm), narrower, not at all imbricate calyx lobes. It usually has white flowers (sometimes pale yellow or white with a yellowish center) while *S. lagunae* has yellow flowers (one collection reported as light yellow) and has a distinct geographic distribution. No collections are available from the critical area between Santa Fé de Veraguas where *S. lagunae* occurs and El Valle, the westernmost locality for *S. minima*, but the available evidence suggests specific recognition.

Stemmadenia minima is fairly common in all the accessible middle elevation wet-forest areas of eastern and central Panama and is the only wet-forest species of *Stemmadenia* occurring east of the Canal Zone. It overlaps with *S. allenii* at El Valle and Cerro Campana but can be easily distinguished from that species by its very different fruit, wider corolla throat, smaller, less membranous leaves, longer calyx lobes and paler flower color.

Forsteronia myriantha Donnell Smith

This species was not treated in the *Flora of Panama* although Woodson (1935) had reported it from the Republic on the basis of a single Hayes collection. It has recently been recollected in Panama (*Foster 4107*, Barro Colorado Island, Canal Zone). The two Panamanian collections key to this species but have the petals sparsely pilosulose both inside and outside. Although this disagrees with Woodson's description of the petals as glabrous or very minutely papillate without, the type (*Heyde & Lux 4533* from Guatemala) also has a few long trichomes on the outside of some petals and otherwise matches the Panamanian material. *Forsteronia myriantha* differs vegetatively from the other Panamanian species in having long trichomes scattered along the leaf midvein and sometimes over the surface beneath as well as in the nerve axils.

Odontadenia cognata (Stadelm.) Woodson

This widespread South American species was cited from extreme eastern Panama by Woodson (1935) based on a single immature collection from Puerto Obaldia, but was subsequently rejected from the *Flora of Panama*. Ten Panamanian collections are now at hand, all collected in wet-forest areas during the last few years. It is the most common species of *Odontadenia* on the El Llano-Cartí road and has also been collected on Santa Rita Ridge, Colón Province, and above Santa Fé, Veraguas Province. The species also reaches Costa Rica, based on *Opler 1724* (MO) from La Selva, Heredia Province. *Odontadenia cognata* is easily told from *O. puncticulosa*, which it somewhat resembles, by the corolla tube tapering more evenly to a narrower base with the anthers inserted near the base of the tube proper rather than at the base of the throat. Several collections are noted as having pink or orange red corollas, but I have seen corollas of the more frequently reported yellow or pale yellow color only. Similar color variations occur in South America but do not appear taxonomically significant.

LITERATURE CITED

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